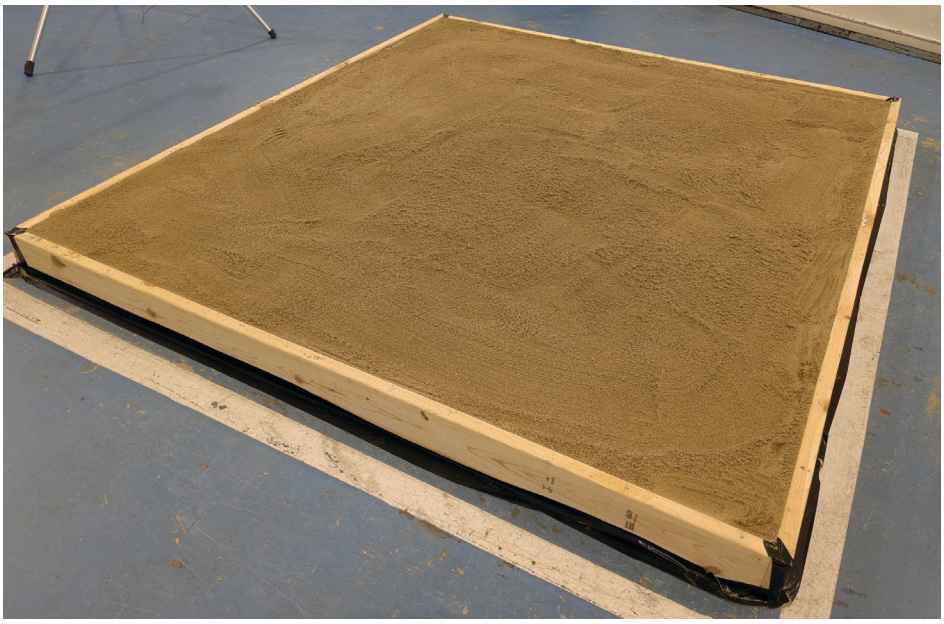
Riverbank Acoustical LABORATORIES®

RIVERBANK ACOUSTICAL LABORATORIES
NOVELTY TESTING
Fun Tests · Serious Results

TEST REPORT

SPONSOR: RIVERBANK ACOUSTICAL LABORATORIES | GENEVA, IL



PRODUCT NAME:

SAND (APPROXIMATELY 5-½" THICK)

TEST DATE:

MARCH 12, 2026

TEST METHOD:

ASTM C423-23 & ASTM E795-23

RATING:

SAA = 0.86
NRC = 0.85

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Test Report

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WALLACE CLEMENT SABINE

SPONSOR: **Novelty Testing Series**
Geneva, IL

Sound Absorption
RAL™-A26-109

CONDUCTED: 2026-03-12

ON: Sand (Approximately 5-1/2" thick)

TEST METHODOLOGY

Riverbank Acoustical Laboratories™ is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) as an ISO 17025:2017 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM C423-23: "Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method." The specimen mounting was performed according to ASTM E795-23: "Standard Practices for Mounting Test Specimens During Sound Absorption Tests." A description of the measurement procedure and room specifications are available upon request. The results presented in this report apply to the sample as received from the test sponsor.

INFORMATION PROVIDED BY SPONSOR

The test specimen was designated by the sponsor as Sand (Approximately 5-1/2" thick). The sand was poured into a wood perimeter frame and brushed to level. The sand was not manually compacted. The following nominal product information was provided by the sponsor prior to testing. The accuracy of such sponsor-provided information can affect the validity of the test results.

Product Under Test

Product Name:	Fine Mason Sand
Manufacturer:	Kane County Landscape Material

SPECIMEN MEASUREMENTS & TEST CONDITIONS

Through a full external visual inspection performed on the test specimen, Riverbank personnel verified the following information:

Test Specimen

Material:	Sand
Dimensions:	2308 mm (90.875 in.) by 2594 mm (102.125 in.)
Thickness:	Approximately 140 mm (5.5 in.)
Overall Weight:	1177.52 kg (2596 lbs)
Mass per Unit Volume:	1410 kg/m^3 (87.9 lbs/ft^3)

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SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Overall Specimen Properties

Size:	2.31 m (90.875 in) wide by 2.59 m (102.125 in) long
Thickness:	0.14 m (5.5 in)
Weight:	1177.53 kg (2596.0 lbs)
Mass per Unit Area:	196.66 kg/m² (40.28 lbs/ft²)
Calculation Area:	5.988 m² (64.45 ft²)

Test Environment

Room Volume:	291.98 m³
Temperature:	21.0 °C ± 0.2 °C (Requirement: ≥ 10 °C and ≤ 5 °C change)
Relative Humidity:	62.05 % ± 1.7 % (Requirement: ≥ 40 % and ≤ 5 % change)
Barometric Pressure:	99.4 kPa (Requirement not defined)

MOUNTING METHOD

Type A Mounting: The test specimen was laid directly against the test surface. Perimeter edges were sealed with wood framing and tape.

Figure 1 – Detail of sand

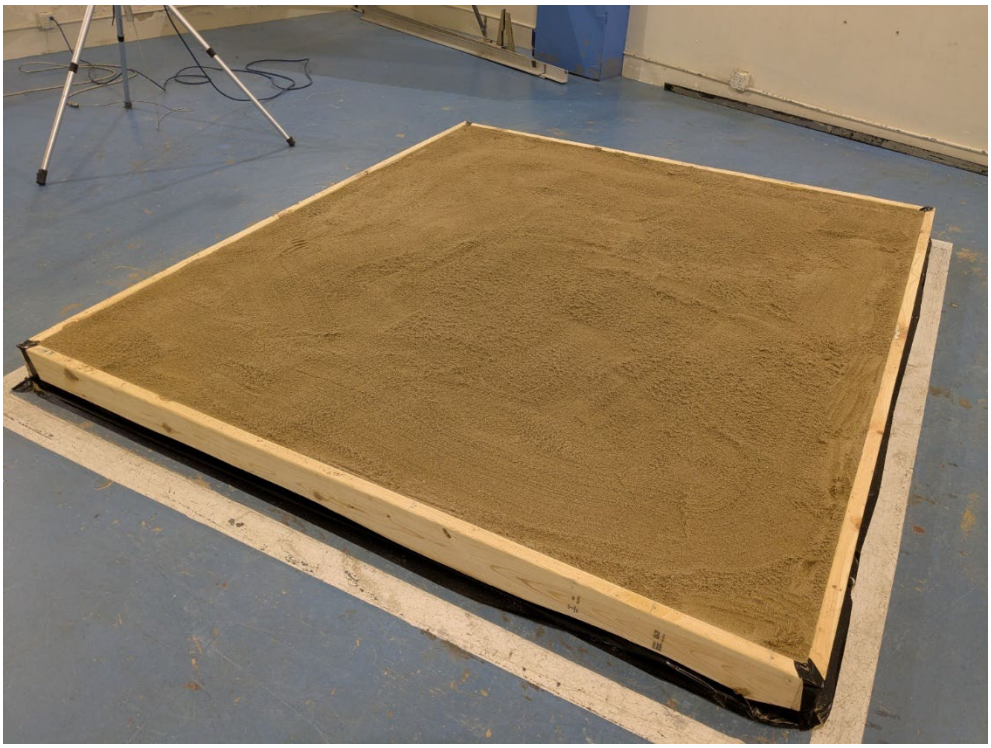

Figure 2 – Specimen mounted in test chamber

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TEST RESULTS

Specimen total absorption and absorption coefficient are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages.

1/3 Octave Center Frequency (Hz)	Total Absorption (m^2)	Total Absorption (Sabins)	Absorption Coefficient
100	2.25	24.24	0.38
** 125	2.21	23.81	0.37
160	2.60	27.98	0.43
200	3.18	34.27	0.53
** 250	3.72	40.00	0.62
315	4.02	43.27	0.67
400	4.57	49.15	0.76
** 500	4.96	53.34	0.83
630	5.38	57.92	0.90
800	5.64	60.65	0.94
** 1000	5.87	63.17	0.98
1250	5.86	63.03	0.98
1600	5.94	63.91	0.99
** 2000	6.16	66.36	1.03
2500	6.26	67.37	1.05
3150	6.30	67.80	1.05
** 4000	6.70	72.15	1.12
5000	7.06	76.02	1.18

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TEST RESULTS (continued)

The sound absorption average (SAA) is defined in ASTM C423-23 Section 3.1.1 as the arithmetic average of the sound absorption coefficients of a material for the twelve one-third octave bands from 200 Hz through 2500 Hz, inclusive, rounded to the nearest integer multiple of 0.01.

The noise reduction coefficient (NRC) is defined from previous versions of ASTM C423 as the arithmetic average of the sound absorption coefficients at 250 Hz, 500 Hz, 1000 Hz, and 2000 Hz, rounded to the nearest integer multiple of 0.05.

Tested by _____
Marc Sciaky
Senior Experimentalist

Report by _____
Keith Kimberling
Test Engineer

Approved by _____
Eric P. Wolfram
Laboratory Manager

Digitally signed by Eric P Wolfram
Date: 2026.05.08 14:57:10 -05'00'

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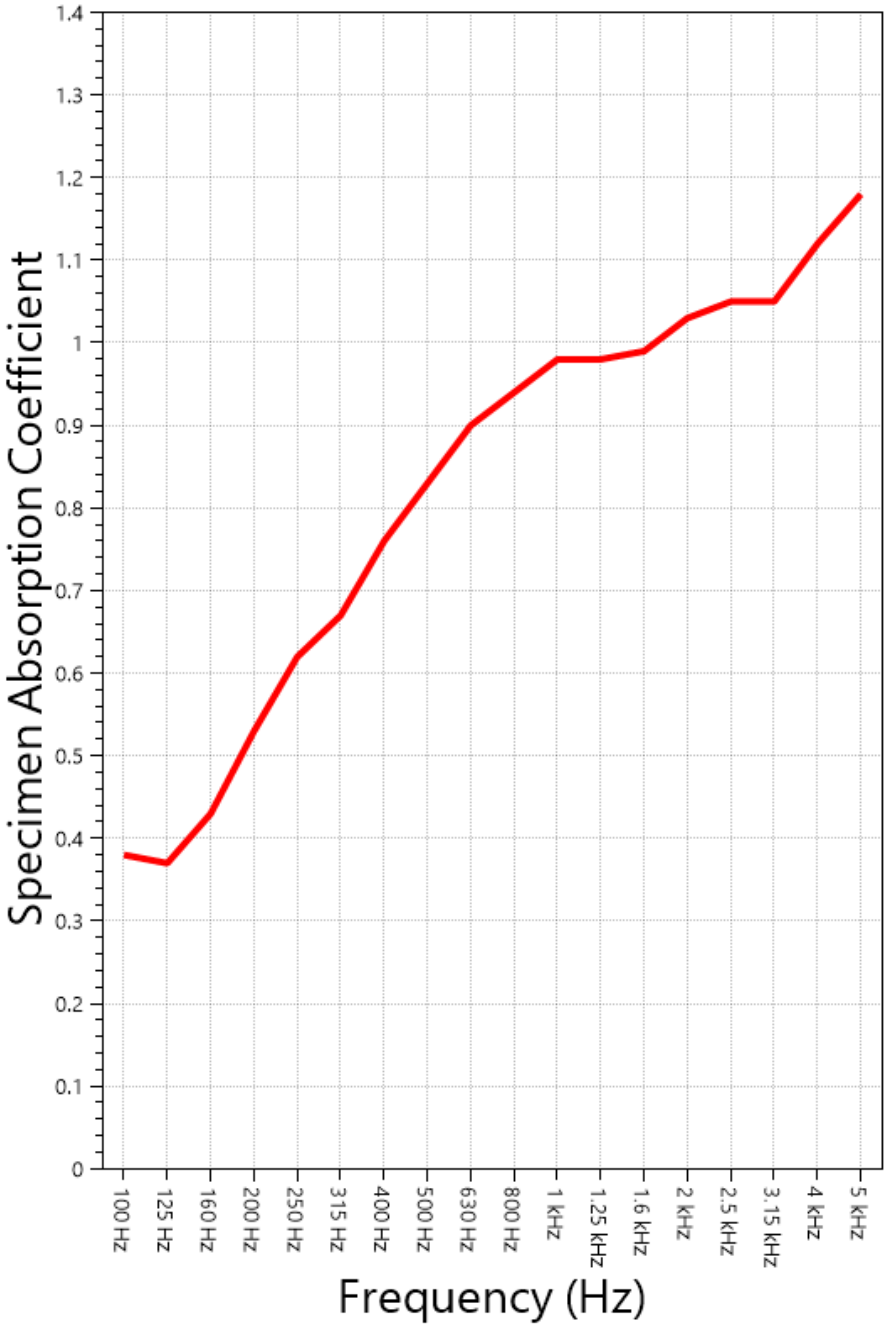
SOUND ABSORPTION REPORT

Sand (Approximately 5-1/2" thick)



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APPENDIX A: Extended Frequency Range Data

Specimen: Sand (Approximately 5-1/2" thick) (See Full Report)

The following non-accredited data were obtained in accordance with ASTM C423-23, but extend beyond the defined frequency range of 100Hz to 5,000Hz. These unofficial results are representative of the RAL test environment only and intended for research & comparison purposes.

1/3 Octave Band Center Frequency (Hz)	**Total Absorption** (Sabins)	**Absorption Coefficient**
40	5.77	0.09
50	-0.40	-0.01
63	1.56	0.02
80	23.02	0.36
100	24.24	0.38
125	23.81	0.37
160	27.98	0.43
200	34.27	0.53
250	40.00	0.62
315	43.27	0.67
400	49.15	0.76
500	53.34	0.83
630	57.92	0.90
800	60.65	0.94
1000	63.17	0.98
1250	63.03	0.98
1600	63.91	0.99
2000	66.36	1.03
2500	67.37	1.05
3150	67.80	1.05
4000	72.15	1.12
5000	76.02	1.18
6300	85.31	1.32
8000	97.40	1.51
10000	105.68	1.64

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APPENDIX B: Instruments of Traceability

Specimen: Sand (Approximately 5-1/2" thick) (See Full Report)

Description	Model	Serial Number	Date of Certification	Calibration Due
System 1	Type 3160-A-042	3160-106968	2025-07-21	2026-07-21
Bruek & Kjaer Mic and Preamp H	Type 4943-B-001	2525859	2025-11-18	2026-11-18
Bruel & Kjaer Pistonphone	Type 4228	2781248	2025-07-21	2026-07-21
EXTECH Hygro 639	SD700	A.103639	2025-12-29	2026-12-29

APPENDIX C: Revisions to Original Test Report

Specimen: Sand (Approximately 5-1/2" thick) (See Full Report)

Date	Revision
2026-04-02	Original report issued

END